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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,299	03/19/2005	Stefan Lemke	22974	3718

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EXAMINER	
MCNELIS, KATHLEEN A	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/509,299	LEMKE ET AL.	
	Examiner	Art Unit	
	Kathleen A. McNelis	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/24/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims Status

Claims 1-6 are presented for examination wherein claims 3-5 are amended.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 are rejected under 35 103(a) as obvious over JP 02-232312 (JP '312)[1].

With respect to claim 1, JP '312 discloses a method for producing stainless steel by adding a carbonaceous reducing material and chrome containing material to molten iron, smelting reduction, desulfurization followed by decarbonization (i.e. decarburization)-refining (p. 2, claim 1) wherein a part of the slag is left in the decarburizing furnace after the molten iron is taken out (p. 2, claim 3). JP '312 discloses that the molten mixture is transferred to a converter for decarburizing (p. 10 last 2 paragraphs). JP '312 teaches that since the amount of sulfur is sufficiently low by the time the molten mixture is transferred to the converter, further desulfurizing is unnecessary, therefore it is not necessary to add CaO (paragraph bridging pages 10 and 11). The molten mixture is tapped off without performing reduction (pg. 11, 1st full paragraph) as in instant claim 1. JP '312 discloses an example where the slag is partially tapped and part (1.9 tons) remains in the converter following tapping of the metal, where it is heated and decarburized with the next melt (p. 15). Then, following decarburizing of the next melt, an additional part (1/2 of 4.5 tons) of the slag is left behind in the decarburizing furnace for use with the next melt (p. 16).

JP '312 teaches leaving a part of the slag in the decarburizing furnace (p. 2 claim 3) as in the instant invention, as well as recovering a part of the slag from the decarburizing furnace and using it upstream in the smelting reduction furnace (p. 2 claim 2). Examiner contends that omission this step (tapping part) and it's function (having slag for use upstream) does not make the instant invention patentably distinct over JP '312 (See In re Wilson 153 USPQ 740). Further, if the second step of JP '312 were omitted and no slag were taken to the smelting reduction furnace (i.e. all remains in the converter rather than at least part remaining), then one of ordinary

[1] Based on USPTO translation into English

skill in the art would expect that the slag would become increasing concentrated with metal oxides until saturation (at solubility limit(s)) is reached in the slag.

With respect to claim 2, JP '312 discloses in the example a process where slag was remaining from a previous batch (i.e. 1), used in the present batch (i.e. 2) and left for the next batch (i.e. 3) to be treated in the converter as discussed above regarding claim 1.

With respect to claims 3 and 5, JP '312 teaches removing a part of the slag for reduction from each batch rather than waiting until all of the slag is saturated with metal. Examiner contends that this represents a difference in the order of performing the sequence of process steps rather than performing different process steps. The selection of any order of performing process steps is prima facie obvious in the absence of any new or unexpected results (MPEP section 2144.04 IV, C).

With respect to claim 4, the process includes oxygen blowing as discussed above; therefore in the absence of evidence to the contrary one of ordinary skill in the art would expect the slag and melt to be strongly mixed.

With respect to claim 6, while JP '312 does not disclose that the reaction of the chromium oxide in the slag with carbon in the melt results in a strong agitation of the melt, JP '312 does teach that Cr_2O_3 is present in the slag and carbon is present in the melt (pp. 11 and 12). Since JP '312 discloses essentially the same process with the same reactants present, one of ordinary skill in the art would expect the same results (i.e. strong agitation as a result of reduction).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571-272-3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ROY KING
SUPERVISORY PATENT EXAMINER
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